

Remarks

The Applicants note with appreciation the withdrawal of the rejection under 35 U.S.C. §103 based on Schlueter.

The Applicants have amended the Specification to clarify one paragraph on page 8. In particular, line 19 has been amended to recite that the antistatic film of the invention “contains no conductive ultrafine particles in the self-supporting film ...”. Also, line 24 has been amended to recite that the conductive ultrafine “particles are firmly held onto the self-supporting film by the metal oxide...”.

Multiple other locations in the Specification plainly support the amendments. For example, page 2, lines 24-27 recite an antistatic film comprising an metal oxide and conductive ultrafine particle mixed layer formed on the surface of a film. Page 4, lines 11-23 recite that the films may be heat-resistant resin films, such as polyimide films, aromatic polyamide films and the like. Representative examples of the polyimide films include KAPTONE H, KAPTONE E, KAPTONE EN, KAPTONE V, UPILEX-R, UPILEX-S and APICAL. Anyone of ordinary skill in the art readily knows that those films are polyimide films and do not contain conductive ultrafine particles.

Separately, the Specification on page 4 at lines 24-28 recite selected metal oxides that may be used to coat the polyimide film. Also, lines 29-36 describe representative ultrafine particles that are used in conjunction with the metal oxides that are coated on the surface of the polyimide films. The first two paragraphs of page 5 of the Specification specifically states this wherein the metal oxide and conductive ultrafine particle mixed layer is preferably formed by coating onto the self-supporting film, which is the polyimide film.

This is further clarified in lines 20-29 of page 5 of the Specification which states that the antistatic film of the invention may be obtained by coating the surface of the self-supporting film with a mixture of a metal compound, conductive ultrafine particles and a solvent. This point is repeated on page 6 in the paragraph spanning lines 32-36 and page 7, lines 15-17.

The Specification further clarifies the fact that the self-supporting film does not contain conductive ultrafine particles in the paragraph spanning pages 7 and 8. In that regard, that portion of the Specification recites that the self-supporting film may be obtained by a reaction of a tetracarboxylic acid component and diamine component in an organic solvent to prepare a polyamic acid solution which is cast onto a support and dried to form a thin polyimide film. It is readily seen in that paragraph that no conductive ultrafine particles are added at any point in that process. Thus,

the resulting polyimide film inherently does not contain conductive ultrafine particles. The following paragraph on page 8 of the Specification then concludes that an antistatic film is obtained by coating the surface of a self-supporting film with a mixture of a metal compound, conductive ultrafine particles and a solvent.

The examples further demonstrate these undeniable facts. In that regard, the Applicants invite the Examiner's attention to Reference Example 1 wherein DMAc, s-BPDA and s-BPTA were reacted to form a polyamic solution. Then in Example 1, the polyamic acid solution from reference Example 1 was cast and coated onto a glass plate and then dried. That process formed a pure polyimide film that did not contain conductive ultrafine particles.

Then, as recited beginning at line 14 of page 10 of the Specification, after formation of the pure polyimide film not containing conductive ultrafine particles, the polyimide film was coated with a mixture of DMAc and ALCH to an ITO ultrafine particle dispersion. That mixture was then coated onto the polyimide film. The resulting film was an antistatic aromatic polyimide film including an ITO film coated onto one side of a polyimide film. This is set forth in lines 23-25 of page 10 of the Applicants' Specification.

The Applicants therefore respectfully submit that when one skilled in the art reads the entire disclosure, it becomes clear that the antistatic film has two components. The components include a polyimide film and a coating including conductive ultrafine particles and a metal compound. It is also clear that the polyimide film is just that: a polyimide film. There are no conductive ultrafine particles in the polyimide film. Why is this so? It is clear from the process discussion and the examples that the components added to form the underlying self-supporting polyimide film are made from components that do not include conductive ultrafine particles. The resulting polyimide film therefore inherently does not include conductive ultrafine particles.

Thus, referring back to lines 19 and 24 of page 8 of the Applicants' Specification, it is clear that the disclosure at that location means that the antistatic film does not contain conductive ultrafine particles in the self-supporting film. Also, it is clear that the conductive ultrafine particles that are in the coating layer are firmly held onto the self-supporting film by action of metal X oxide. The Applicants therefore respectfully submit that the two amendments made to the Specification are merely clarifying amendments and are fully supported in multiple locations of the Applicants' Specification. Entry of the amendments into the Specification is respectfully requested.

The Applicants note the rejection of Claims 25-41 under 35 U.S.C. §112, first paragraph. The Applicants note with appreciation the Examiner's detailed comments in support of the rejection. The Applicants respectfully submit that the language highlighted in the rejection, namely the position that the "no conductive ultrafine particles" language constitutes new matter, is, upon full consideration of the Applicants' Specification not accurate.

The Applicants have already demonstrated that the Specification readily supports language that the polyimide does not contain conductive ultrafine particles. Without repeating the entire description set forth above, the Applicants' Specification provides specific examples of selected commercially available polyimide films. Those skilled in the art readily know that those commercially available polyimide films simply do not contain conductive ultrafine particles. Thus, the "no conductive ultrafine particles" language is inherently supported.

Further, the Specification provides examples that demonstrate exactly how selected polyimide films were formed. The exact amounts of the components and the way they were combined/reacted is set forth in detail in those examples. One skilled in the art can readily see that no conductive ultrafine particles were among those components or added at any point during the process. The resulting polyimide films, therefore, inherently contain no conductive ultrafine particles. The Applicants respectfully submit that the Specification is replete with support for the fact that the polyimide films do not contain conductive ultrafine particles as recited in Claim 25. With the clarifying amendments to the paragraph beginning at line 18 of page 8, it is now directly and overtly stated in the Specification.

The Applicants therefore respectfully submit that the "no conductive ultrafine particles" language is not new matter and is directly supported in the Specification.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



T. Daniel Christenbury
Reg. No. 31,750
Attorney for Applicants

TDC/vbm
(215) 656-3381